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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/894,189	06/27/2001	Ronald D. Stieger	004524.P020	7080

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EXAMINER
BAKER, STEPHEN M

ART UNIT	PAPER NUMBER
2133	5

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DATE MAILED: 03/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/894,189	STIEGER, RONALD D.	
	Examiner	Art Unit	
	Stephen M. Baker	2133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-44 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-44 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,058,106 to Cudak *et al* (Cudak hereafter) in view of U.S. Patent No. 6,088,337 to Eastmond *et al* (Eastmond hereafter).

Cudak discloses a system and protocol for peer-to-peer communications between wireless source and destination peripheral devices such as PCs and shared printers. (col. 7, lines 49-54). A data packet, such as a PPP-encapsulated IP datagram, is segmented by a source peripheral device into payload blocks called asynchronous segments. An initial control segment specifies a connection address, and a final segment is padded with fill bits to form a complete block (col. 33, lines 14-57). Each payload block has a 1-bit sub-address block sequence number (SBSN) used by a stop-and-wait ARQ protocol (col. 31, lines 40+, Table 3). Once the entire asynchronous packet is received by an application from the source peripheral, it may then be forwarded to the destination peripheral (col. 33, lines 58-66).

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1-7, 11-19, 23, 24, 35-37, 39-42 and 44 are rejected under 35 U.S.C. 102(a) as being anticipated by U.S. Patent No. 6,154,489 to Kleider *et al* (hereafter Kleider).

Kleider discloses adaptive forward error correction for an image transmission system that may be implemented on a laser optical communication link (col. 6, lines 47-48), for which the modulator and antenna (113, 102) in Kleider's "optical transmitter" (101) would of course take the form of a "laser/driver unit" and the antenna and demodulator in Kleider's "optical receiver" (103) would of course take the form of an "optical detector/amplifier". Kleider shows an adaptive "error correction encoder" (111) for generating an "error correction code selected from a predetermined set of error correction codes having differing data transfer rates" (col. 6, lines 56-61). Kleider refers to error correction codes as 'channel codes', and discusses changing the channel code rate and channel code strategy (col. 2, lines 15-44, column 12, lines 44-47). Kleider's optical link transmitter would send "optical signals modulated with data from the error correction encoder" to be decoded by an "error correction decoder" (119) for decoding data "according to the error correction code selected in the error correction encoder".

Regarding claims 2-6, 14-18 and 26-30, Kleider also provides an "error rate indicator" (127) that, in a laser link embodiment, would of course provide "an indication of a power level of the *optical* signal received" (col. 3, lines 54-59, col. 7, lines 38-50, col. 14, lines 9-18, col. 15, lines 20-30) to be provided to the optical transmitter, via a feedback loop (127-115) that involves "synchronization units" to be used for selecting the most suitable degree of error correction coding.

Regarding claims 11, 23, 36 and 41, Kleider further discloses using no error correction coding when the channel permits (col. 3, lines 36-39).

Regarding claims 12 and 24, Kleider's error rate indication can also involve output from the error correction decoder (col. 3, lines 20-23).

3. Claims 1-10, 13-22, 25-32, 35, 38-40, 43 and 44 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,611,795 to Cooper (hereafter Cooper).

Cooper discloses adaptive forward error correction for a multimedia transmission system that may be implemented entirely on a laser optical communication link (col. 4, line 23) which of course would require an "optical transmitter" in the form of a "laser/driver unit" and an "optical receiver" in the form of an "optical detector/amplifier". Cooper requires (col. 5, line 18, col. 6, lines 21-67, col. 8, line 5 to col. 9, line 17) an adaptive "error correction encoder" for generating an "error correction code selected from a predetermined set of error correction codes having differing data transfer rates" (col. 7, lines 50-60). Cooper's optical link-only transmitter embodiment would of course send "optical signals modulated with data from the error correction encoder" to be

decoded by an "error correction decoder" (146) for decoding data "according to the error correction code selected in the error correction encoder".

Regarding claims 2-6, 14-18 and 26-30, Cooper also provides an "error rate indicator" (col. 8, line 53 to col. 9, line 38) that, in a laser link embodiment, would of course provide "an indication of a power level of the *optical* signal received". The "error rate indicator" supports exchange of modified error correction configuration parameters (col. 6, lines 21-26) to be provided to the optical transmitter, forming a feedback loop that of course involves "synchronization units" to be used for selecting the most suitable degree of error correction coding.

Regarding claims 8, 9, 20, 21 and 25-31, for a link that is exclusively optical fiber, rather than a hybrid network (col. 4, lines 19-25), Cooper's parameter exchange system (col. 6, lines 21-26) requires optical transceivers.

Regarding claims 10, 22 and 32, Cooper discloses communication with a modulated carrier wave, providing a "tone modulation".

Claim Rejections - 35 USC § 103

4. Claims 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cooper.

Cooper does not specify implementing the adaptive FEC coding logic by using FPGA logic. Official Notice is given that the ease of implementing fast adaptive logic by using FPGA logic was well known at the time the invention was made. It would have been obvious to a person having ordinary skill in the art at the time the invention was

made to implement Cooper's adaptive FEC code logic by using FPGA logic. Such an implementation would have been obvious because, as stated above, the ease of implementing fast adaptive logic by using FPGA logic was already well known.

Response to Arguments

5. Applicant's arguments filed 12 December 2003 have been fully considered but they are not persuasive.

With regard to the claimed "set of error correction codes having different data transfer rates", applicant's argument is contrary to applicant's specification and contrary to standard terminology for the error-control coding art. The specification (p. 7, line 23 to page 8, line 2) notes that "error correction codes have variable ... parameters such as, for example the *n* and *k* values of block codes, which affect the data transfer rate and error correction performance". In accordance with standard, accepted terminologies in the coding art and the computer science art, codes with different (n, k) parameters are different "error correction codes" having different algorithms and "different data transfer rates".

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

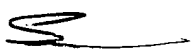
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. Baker whose telephone number is (703) 305-9681. The examiner can normally be reached on Monday-Friday (11:00 AM - 7:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on (703) 305-9595. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Stephen M. Baker
Primary Examiner
Art Unit 2133

smb